

WHAT IS CLAIMED IS:

1. An isolated protein comprising the amino acid sequence shown in SEQ ID NO:2, or portion thereof of at least 10 contiguous amino acids.

2. The isolated protein according to claim 1 wherein said protein comprises the amino acid sequence shown in SEQ ID NO:2, or portion thereof of at least 30 contiguous amino acids.

3. The isolated protein according to claim 2 wherein said protein comprises the amino acid sequence shown in SEQ ID NO:2, or portion thereof of at least 50 contiguous amino acids.

4. The isolated protein according to claim 3 wherein said protein comprises the amino acid sequence shown in SEQ ID NO:2, or portion thereof of at least 75 contiguous amino acids.

5. An isolated protein comprising the amino acid sequence shown in SEQ ID NO:2 or a sequence of amino acids at least 70% homologous to the amino acid sequence shown in SEQ ID NO:2.

6. The isolated protein according to claim 5 wherein said protein comprises the

amino acid sequence shown in SEQ ID NO:2 or a sequence of amino acids at least 80% homologous to the amino acid sequence shown in SEQ ID NO:2.

7. The isolated protein according to claim 6 wherein said protein comprises the amino acid sequence shown in SEQ ID NO:2 or a sequence of amino acids at least 90% homologous to the amino acid sequence shown in SEQ ID NO:2.

8. The isolated protein according to claim 7 wherein said protein comprises the amino acid sequence shown in SEQ ID NO:2 or a sequence of amino acids at least 95% homologous to the amino acid sequence shown in SEQ ID NO:2.

9. An isolated protein having the amino acid sequence shown in SEQ ID NO:2.

10. An isolated nucleic acid encoding a protein comprising the amino acid sequence shown in SEQ ID NO:2 or portion of the amino acid sequence shown in SEQ ID NO:2 of at least 10 contiguous amino acids, or complement thereof.

11. The isolated nucleic acid according to claim 10 wherein said nucleic acid encodes the protein comprising the amino acid sequence shown in SEQ ID NO:2 or portion of the amino acid sequence shown in SEQ ID NO:2 of at least 30 contiguous amino acids.

12. The isolated nucleic acid according to claim 11 wherein said nucleic acid encodes the protein comprising the amino acid sequence shown in SEQ ID NO:2 or portion of the amino acid sequence shown in SEQ ID NO:2 of at least 50 contiguous amino acids.

13. The isolated nucleic acid according to claim 12 wherein said nucleic acid encodes the protein comprising the amino acid sequence shown in SEQ ID NO:2 or portion of the amino acid sequence shown in SEQ ID NO:2 of at least 75 contiguous amino acids.

14. An isolated nucleic acid comprising the nucleotide sequence shown in SEQ ID NO:4 or a nucleotide sequence at least 70% homologous therewith, or complement thereof.

15. The isolated nucleic acid according to claim 14 wherein said nucleic acid comprises the nucleotide sequence shown in SEQ ID NO:4 or a nucleotide sequence at least 80% homologous therewith.

16. The isolated nucleic acid according to claim 15 wherein said nucleic acid comprises the nucleotide sequence shown in SEQ ID NO:4 or a nucleotide sequence at least 90% homologous therewith.

17. The isolated nucleic acid according to claim 16 wherein said nucleic acid comprises

the nucleotide sequence shown in SEQ ID NO:4 or a nucleotide sequence at least 95% homologous therewith.

18. An isolated nucleic acid having the nucleotide sequence shown in SEQ ID NO:4, or complement thereof.

19. A recombinant molecule comprising a vector and the nucleic acid according to any one of claims 10, 14 and 18.

20. The recombinant molecule according to claim 19 wherein said nucleic acid is operably linked to a promoter.

21. A host cell comprising the recombinant molecule according to claim 19.

22. A method of making a protein comprising culturing the host cell according to claim 21 under conditions such that said nucleic acid is expressed and said protein is thereby produced, and isolating said protein.

23. A fusion protein comprising said protein according to any one of claims 1, 5 and 9 and a heterologous amino acid sequence.

24. An antibody specific for the protein according to any one of claims 1, 5 and 9.

25. A method of screening a test compound for its potential as a modulator of human

reaper protein (hRpr) activity comprising contacting said test compound with the protein according to any one of claims 1, 5, 9 and 23 and determining whether said test compound binds said protein, wherein a test compound that binds said protein is a potential modulator of hRpr activity.

26. A potential modulator of hRpr activity identifiable by the method according to claim 25.

27. A method of treating a patient suffering from a disease or disorder that results from overexpression of hRpr comprising administering to said patient an amount of an agent that inhibits activation of apoptosis by hRpr in an amount sufficient to effect said treatment.

28. The method according to claim 27 wherein said agent is identifiable by the method according to claim 25.

29. A method treating a patient bearing a tumor comprising irradiating said tumor and administering to said patient an amount of an agent that enhances hRpr activity sufficient to effect said treatment.

30. The method according to claim 29 wherein said agent is identifiable by the method according to claim 25.

31. A kit comprising the protein according to any one of claims 1, 5, 9 and 23, or the nucleic acid according to any one of claims 10, 14 and 18 or the antibody according to claim 24, disposed within a container means.

32. The kit according to claim 31 wherein said protein, nucleic acid or antibody bears a detectable label.

33. The kit according to claim 31 wherein said protein, nucleic acid or antibody is bound to a solid support.

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